CLAIMS

Having thus described our invention, what we claim as new and desire to secure by Letters Patent is as follows:

1. A bushing for conducting and insulating electricity comprising:
a core;
a flange securely fastened to said core; and
a housing permanently fastened directly to said core.

2. A bushing according to claim 1 wherein:
said housing is one unitary piece, having a top end and bottom end, and is permanently fastened directly to said core, continuously from the top of said housing to the bottom of said housing.

3. A bushing according to claim 2 wherein:
said housing is comprised of silicone-rubber.

4. A bushing according to claim 1 wherein:
said core consists of a stud with resin-impregnated paper-foil matrix wound around said stud for increased capacitance-grading.

5. A bushing according to claim 4 wherein:
said resin-impregnated paper-foil matrix further comprising a plurality of crepe paper and foil matrix layers wound around said stud; and
an epoxy resin encapsulating said plurality of crepe paper and foil matrix layers.

6. A bushing according to claim 5 wherein:

said foil matrix is selected from a group consisting of a metal, a conductive ink, or a conductive element paper.

7. A bushing for conducting and insulating electricity according to claim 1 wherein:

said flange is further comprised of a power factor test tap for testing the power factor of said apparatus bushing; and

said power factor test tap is connected to said core by an electrical wire.

8. A bushing for conducting and insulating electricity according to claim 1 wherein:

said core has at least one recess for physically - mechanically attaching said housing to said core.

9. A bushing for conducting and insulating electricity according to claim 1 wherein:

said flange is further comprised of a power factor test tap for testing the power factor of said bushing; and

said power factor test tap is connected to an end of an electrical wire, and the other end of said electrical wire is connected to said core.

10. An apparatus bushing for conducting and insulating electricity comprising:

a core

a flange adapted for receiving said core, where said flange is permanently bonded to said core; and

a housing directly bonded to said core.

11. An apparatus bushing for conducting and insulating electricity according to claim 10 wherein:

said housing is of unitary construction, having a top end and a bottom end, and is permanently molded to said core.

12. An apparatus bushing for conducting and insulating electricity according to claim 11 wherein:

said housing is a rubber housing.

13. An apparatus bushing for conducting and insulating electricity according to claim 11 wherein:

said housing is comprised of silicone-rubber.

14. An apparatus bushing for conducting and insulating electricity according to claim 10 wherein:

said core is comprised of a stud around which a plurality of resin-impregnated crepe paper and foil matrix layers are wound.

15. An apparatus bushing for conducting and insulating electricity according to claim 10 wherein:

said foil matrix is selected from a group consisting of a metal, a conductive ink, or a conductive element paper.

16. An apparatus bushing for conducting and insulating electricity according to claim 10 wherein:

said core has at least one recess for physically-mechanically attaching said housing to said cord.

17. An apparatus bushing for conducting and insulating electricity according to claim 10 wherein:

said flange is further comprised of a power factor test tap for testing the power factor of said apparatus bushing; and

said power factor test tap is connected to an end of an electrical wire, and the other end of said electrical wire is connected to said core.

18. A bushing comprising:

a core for conducting and insulating electricity comprising a stud and a plurality of crepe paper and foil matrix layers wound around said stud and impregnated with epoxy resign;

a flange securely fastened to said core; and

a silicone-rubber housing of unitary construction, having a top and a bottom end;

said silicon-rubber housing being permanently bonded directly to said core continuously from the top of said housing to the bottom of said housing.

19. A bushing produced according to the process of:

Forming a core by securing a plurality of crepe paper and foil matrix layers to a stud;

Drying of said core to remove moisture;

Impregnating said core with an epoxy resin;

Machining of said core to finished dimensions;

Sealing the surface of said core with a polyrethane;

Bonding a flange to said core with an adhesive; and

Applying to the surface of said core a bonding primer; and

Molding a one piece housing directly to the surface of said core.